FOURTH FIVE-YEAR REVIEW REPORT FOR SYNCON RESINS SUPERFUND SITE KEARNY, HUDSON COUNTY, NEW JERSEY

Prepared by:
U.S. Environmental Protection Agency
Region 2
NEW YORK, NEW YORK

Approved by:

Walter E. Mugdan, Director
Emergency and Remedial Response Division

Date: September 20, 2014

437471

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List of Abbreviations & Acronyms

ARAR	Applicable or Relevant and Appropriate Requirement
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
EPA	United States Environmental Protection Agency
FYR	Five-Year Review
ICs	Institutional Controls
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPL	National Priorities List
O&M	Operation and Maintenance
PRP	Potentially Responsible Party
RAO	Remedial Action Objectives
ROD	Record of Decision
RPM	Remedial Project Manager
TBC	To be considered

I. Introduction

The purpose of a Five-Year Review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in FYR reports such as this one. In addition, FYR reports identify issues found during the review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP)(40 CFR Section 300.430(f)(4)(ii)), and considering EPA policy.

This is the fourth FYR for the Syncon Resins Superfund Site (Site). The triggering action for this statutory review is August 23, 2011, the signature date of the previous FYR. This FYR review has been prepared due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unlimited use and unrestricted exposure.

The Site has been divided into two Operable Units (OUs). OU1 remedial actions are being implemented by the New Jersey Department of Environmental Protection (NJDEP); the remedy has been implemented and is operating. OU2 remedial action construction activities have not yet commenced. Only OU1 is being addressed in this FYR.

The Syncon Resins Superfund Site FYR was led by Ms. Pamela J. Baxter, CHMM, EPA's Remedial Project Manager (RPM). The FYR review team consisted of Ms. Lora Smith, Ph.D., Risk Assessor; Ms. Mindy Pensak, Ecological Risk Assessor; Mr. Robert Alvey, P.G., Hydrogeologist; and Ms. Jeanette Abels, NJDEP Operations Manager. An internal EPA kick-off meeting was held on August 18, 2015 and a Site inspection was conducted on August 19, 2015.

Site Background

The Syncon Resins Site encompasses approximately 15 acres and is located in a heavily industrialized area of northern New Jersey. The Site is located at 77 Jacobus Avenue in Kearny, Hudson County. The Site is bounded on its western edge by the Passaic River. Adjacent to the northern and southern boundaries are facilities of two licensed waste haulers. The Site is bounded on the eastern side by Jacobus Avenue and is across the street from a former lacquer manufacturing facility. The closest residential areas to the Site are located approximately one mile west in Newark and one and one-half miles southeast in Jersey City.

The Site is situated on a narrow peninsula of land bordered by the Passaic River and the Hackensack River, whose confluence one and one-half miles south of the Site forms the upper reaches of Newark Bay. The Site is relatively flat with minor topographic variations.
Most of the company's business consisted of reprocessing of off-specification resins purchased

from other manufacturers. Six main buildings and seven ancillary structures were used in process-related activities on the Site. There were at least two chemical reactor buildings containing stainless steel vessels, various other buildings and structures, numerous large bulk storage tanks, two unlined lagoons that had been used for discharging process wastewater, and an unknown number of underground tanks and associated piping systems.

Although groundwater is classified as IIA, a drinking water aquifer, the groundwater is not used for drinking water, and it is not anticipated that it will be used as a drinking water source in the future. Currently, the treated groundwater is filtered and discharges to a groundwater location on Site and it percolates back to the recovery wells.

In May 1977, the owners of Syncon Resins filed for bankruptcy under Chapter 11 of the Bankruptcy Act. In November 1981, NJDEP investigated the Site and ordered its owners to control and contain the hazardous material at the Site. The company ceased all operations in 1982. In 1982, a limited Site investigation was conducted by NJDEP and EPA which identified widespread soil and groundwater contamination. On September 1, 1983, Syncon Resins was placed on the National Priorities List of Superfund Sites.

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site Name: Syncon Resins		
EPA ID: NJD064263817		
Region: 2	**State:** NJ	**City/County:** Kearny, Hudson County

SITE STATUS	
NPL Status: Active	
Multiple OUs? Yes	**Has the site achieved construction completion?** No

REVIEW STATUS
Lead agency: EPA **If "Other Federal Agency" was selected above, enter Agency name**
Author name (Federal or State Project Manager): Pamela J. Baxter, CHMM
Author affiliation: EPA
Review period: August 23, 2011 – August, 2016
Date of Site inspection: August 19, 2015
Type of review: Statutory
Review number: 4
Triggering action date: August 23, 2011
Due date *(five years after triggering action date)*: August 2016

II. Response Action Summary

Basis For Taking Remedial Actions

In 1982, a limited Site investigation showed widespread contamination. Within the deep aquifer, six contaminants (benzene, methylene chloride, tetrachloroethylene, chloroform, carbon tetrachloride and PCBs) exceeded adjusted ambient water quality criteria (AAWQC). Gross chemical contamination was found in soils at the Site. Soil samples were collected from test pits that were excavated at the Site. Ten base/neutral compounds in excess of 400 ppm were found in these samples. Concentrations of toluene up to 3,100 ppm and methylene chloride up to 670 ppm were found in the soils from these test pits. PCBs (greater than 33,000 ppm), DDT (in excess of 1,400 ppm) and high concentrations of arsenic, chromium, lead, mercury, and zinc were also present. Many of the compounds found in the test pit soils are suspected carcinogens.

From May 1985 to April 1986, NJDEP conducted a remedial investigation (RI) at the Site. The sampling performed during the RI indicated extensive on-site contamination in vessels and tanks, soil, groundwater, and buildings. A variety of volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), total petroleum hydrocarbons (TPHs), polychlorinated biphenyls (PCBs), pesticides, and metals were identified in soil that exceeded the delineation criteria, and the human health risk assessment (HHRA) indicated that exposure of workers to these soils via ingestion resulted in cancer risks that exceeded EPA's acceptable risk levels.

Materials found at the ground surface of borings done during subsurface investigations were sand, concrete or man-made fill material depending on the locations on the Site. Sands at the ground surface of a number of borings were visibly contaminated giving a black and oily appearance. In some of the well borings, a concrete slab prevented sampling for the first foot of drilling, while asphalt and fill material of various thicknesses were encountered during drilling for the installation of some of the monitoring wells. These obstructions would most likely impede groundwater flow.

The 1986 ROD reported that eleven potential exposure pathways were identified. These pathways include ingestion, inhalation, and direct contact with various media. Three on-site matrices (unsaturated soil, lagoon sediment, and building dirt and dust) exceeded health-based criteria for organic and metal contaminants and pose a health risk via direct contact and ingestion and to on-site workers. In addition to the various on-site matrices posing potential health risks, some of the on-site tanks and vessels contained materials that could pose potential health risks to exposed populations if left on-site. Ecological health risks were not evaluated at that time.

Response Actions

In 1984, a total of 12,824 55-gallon drums of off-specification resins, raw materials, wastes and solvents stored at various locations on the Site were removed by NJDEP.

OU1 Remedy Selection

A Record of Decision (ROD) was issued by EPA on September 29, 1986. The interim remedy selected in the ROD included:

- Removal and disposal of the contents of storage tanks and vessels, lagoon liquids and sediments, and grossly contaminated surface soils;
- Decontamination of buildings and tank structures;
- Installation of cover material over the Site to allow for natural flushing of underlying soil and groundwater contaminants; and
- Construction of a collection and treatment system for contaminated groundwater from the shallow aquifer, with discharge of the treated groundwater to the Passaic River.

The ROD also called for supplemental studies to evaluate methods to enhance the effectiveness of flushing and/or treatment of the contaminated soil.

The following remedial objectives were established for the Site.

- Develop mitigative measures to prevent exposure of humans to organic and metal contaminants within the unsaturated soil, lagoon sediments, and building dirt/dust through direct contact and ingestion exposure routes;
- Implement mitigative measures to eliminate the potential hazard to exposed populations caused by the asbestos material covering the on-site tanks and vessels and the chemical materials remaining within them;
- Implement mitigative measures to remediate the contaminated groundwater within the shallow aquifer to levels identified in the following guidance documents[1]; and
- Develop mitigative measures to remediate the contaminated saturated soils above the continuous clay layer.

OU2 Remedy Selection

An OU2 ROD was issued on September 27, 2000. The major components of the OU2 remedy were:

- Excavation and drainage of approximately 30,000 cubic yards of contaminated soil from an area of about 2.5 acres;
- Removal and disposal of buried debris and other obstructions from the excavated areas;
- Installation of a drainage layer at the bottom of the excavations;
- Treatment and/or disposal of drained free product from the excavated materials;
- Addition of soil amendments to the excavated soil before backfilling;
- Possible restoration of natural hydraulic conditions, and discontinuation of the contaminated water treatment system (CWTS) operation; and

[1] Groundwater criteria for Class GW3 aquifers (N.J.A.C. 7:9-6); NJPDES effluent limitations for discharge to the Passaic River (N.J.A.C. 7:9-5); and Best Available Technology (BAT) Limitations Option II for Organics and Plastics and Synthetic Fibers 40 CFR Parts 414 and 416, Proposed Rule.

- Establishment of institutional controls to ensure continued commercial/industrial use of the property.

In January 2004, Louis Berger Group was contracted by NJDEP to prepare a Pre-Design Investigation Report and propose a pilot study and other studies necessary to develop a remedial design to implement the OU-2 ROD. The results of the preliminary design investigations indicated that it would not be feasible to implement the remedy selected in 2000 because total petroleum hydrocarbons (TPHs), which also contain PCBs would not drain from the soil. On September 18, 2007, EPA assumed the lead responsibility for Site activities for OU2. On July 14, 2008, a field investigation was conducted which consisted of installing soil borings and conducting soil sampling activities. In 2009, a technical memorandum was prepared to assess regional groundwater flow and groundwater quality in unconsolidated deposits in the vicinity of the Site. EPA issued an FFS on August 10, 2010 and signed a ROD Amendment for OU2 on September 30, 2010. The major components of this current modification of the OU2 Remedy consist of:

- Excavation of soils exceeding Remediation Goals (RGs), to a depth of about 12.5 feet;
- Post-remediation sampling to verify achievement of RGs;
- Treatment and/or disposal of excavated soils at off-site facilities in accordance with applicable regulatory requirements;
- Backfilling of recovered existing gravel from completed excavation areas to the bottom portion of the excavation;
- Backfilling of excavated areas with imported clean fill; and
- Implementation of institutional/engineering controls.

Remedial action construction activities are scheduled to begin in October 2016. At completion of construction activities, it is anticipated that CWTS will resume full operation.

Status of Implementation

OU1 Remedy Implementation

The selected 1986 ROD remedy was completed by NJDEP in October 1993. The major items that were completed included: the installation of the collection trench and a slurry wall; construction of the contaminated water treatment system; hot-spot excavation of contaminated wastes; and closure of underground storage tanks.

Operation and Maintenance

In 1991, NJDEP started operating the groundwater treatment plant to treat contaminated water from the shallow aquifer. Operation of the plant generally includes the following tasks: complete scheduled (routine) operations and maintenance; respond to routine or emergency alarms; sample, test and report as required by the plant operations or permit requirements; procure spare parts, consumables, supplies and/or services; sample and dispose of generated wastes; maintain outer building and associated structures; maintain the grounds on a limited basis; and train replacement operators at contract turnover.

Currently, the operators are operating the treatment system and maintaining the equipment and systems by manually operating the treatment plant and extraction wells two days a week or about 20 hours per week.

Since laboratory data confirmed that the water quality from the recovery wells was basically as clean as the treated effluent being discharged, in September 2014, discharge of the treated plant effluent to the outfall permit equivalency location at the Passaic River stopped. NJDEP decided that the substantial monthly analytical expenses were not justified when the system could be operated in a reduced process mode to maintain hydraulic control of the property by discharging its treated effluent into the ground within the Site berm and let it percolate back to the treatment plant. However, there is no data to support that hydraulic control is occurring. The institutional controls (ICs) required in the OU2 ROD amendment, e.g., deed notice and classification exception area (CEA) to limit the use of portions of the property, have not yet been implemented. However, a fence surrounding the entire Site controls access.

Climate change impacts were evaluated and there is no evidence that significant changes in temperature have occurred or have an impact on the Site. There is less certainty regarding evidence on potential contaminant release or migration from remedies due to water level rise or flooding. Specific data regarding the impact of water level rise or flooding on contaminant release or migration is unavailable. Forensic evidence indicated that there was no appreciable contaminant release from the Site resulting from Superstorm Sandy in late October, 2012. The Site was extensively flooded, but the water predominantly drained laterally and did not cause a release of the non-aqueous phase liquids (NAPL) or contaminants from the contaminated soils and fill. The treatment system was, however, damaged and repairs took eight months. At this time the system operates about twice a week.

III. Progress Since Last Five-Year Review

The third FYR was completed on August 23, 2011. The FYR concluded:

The OU1 remedy protects human health and the environment because all interim actions comprising the remedy had been taken to address exposure pathways and contaminant migration identified in the OU1 ROD.

There were no issues, recommendations or follow-up actions from the last FYR.

Since the last FYR was completed, a number of significant activities have occurred at the Site. On October 29, 2012, Superstorm Sandy flooded the Site and treatment plant. Within hours the tidal surge and 90 mph winds had the Site under five feet of water. The floodwaters were a combination of saltwater, raw sewage, and contamination from chemicals and heavy sludge from decades of dumping. All of the plant equipment, motors, pumps, supplies, spare parts, tools, file cabinets, plant records and files were covered in thick septic sludge and were destroyed. The cleanup and assessment of the facility equipment began immediately. Whatever could be cleaned up, repaired and refurbished was fixed and put back into service. All of the Gould

centrifugal transfer pumps had to be thoroughly cleaned and rebuilt, with new seals and bearings. Almost every motor associated with the pumps had to be replaced. The main control cabinets and motor control center required new components and complete rewiring. It took about eight months and after many weeks of process test runs the plant made its first overnight solo uninterrupted process pump and treat startup run on June 18, 2013. The system resumed operating five days a week until budget priorities at NJDEP forced a reduction in plant operations at the end of 2014. Currently, the maintenance of equipment and systems are performed manually by operating the treatment plant and extraction wells two days a week or approximately 20 hours per week.

Partial funding in the amount of $12 million was provided for the OU2 remedy on August 24, 2015. The revised remedial design was finalized on January 15, 2016. On June 23, 2016, the U.S. Army Corps of Engineers (USACE) awarded a contract to Sevenson Environmental Services, Inc., as the prime contractor to implement the OU2 remedy. Remedial action construction activity is scheduled to begin on October 3, 2016.

Community Notifications, Involvement & Site Interviews

On November 19, 2015, EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at 32 Superfund sites and four federal facilities in New York and New Jersey, including the Syncon Resins Site. The announcement can be found at the following web address: http://www2.epa.gov/sites/production/files/2015-11/documents/fy_16_fyr_public_website_summary.pdf.

Data Review

The Monthly monitoring data from 2011 through 2015 indicated that during those months where there was a discharge the effluent met permit requirements. No other data has been collected at the Site during that five-year period that is part of this review.

Site Inspection

EPA's RPM and contractor, and NJDEP's Operations Manager, conducted a Site visit on August 19, 2015.

The visit included a walk around the Site, observation of monitoring wells, a tour of the groundwater treatment facility, and visual assessment of the unsafe buildings and deteriorated structures remaining at the Site (these buildings are scheduled for demolition as part of OU2 activities) from the Syncon operational period.

Interviews/Meetings

During the FYR process, EPA's RPM conducted an interview with the plant manager on August 19, 2015. The treatment plant operator explained that the plant was down for about a year due to Superstorm Sandy in October 2012. The treatment plant currently operates a few times per month and the operator is on Site about once a week on Wednesdays.

IV. Technical Assessment

Question A: Is the remedy functioning as intended by the decision documents?

The remedy has eliminated exposure to ecological receptors in the Passaic River by controlling the source of contamination. The soil pathway exposure to on-site trespassers has been addressed partially through soil removal and transferring soils off-site for disposal and the covering of surface soil with a layer of gravel. A collection trench and slurry wall has been installed along with a water treatment system to address contamination in the shallow aquifer. Treated water must meet permit requirements. The monthly monitoring data from 2011 through 2015 indicate that during those months where there was a discharge the effluent met permit requirements. At this time the system operates about twice a week. Once the OU2 remedy is implemented, the system will be evaluated for hydraulic control as well as treating the contaminated groundwater.

The ICs required in the OU2 ROD amendment, e.g., deed notice and classification exception area (CEA) to limit the use of portions of the property, have not yet been implemented. However, a fence surrounding the entire Site controls access.

Question B: Are the exposure assumptions, toxicity data, cleanup levels, and remedial action objectives used at the time of the remedy still valid?

The exposure assumptions and toxicity values that were used to estimate cancer risks and noncancer hazards in the risk assessments supporting the 1986 OU1 ROD for human health followed the Risk Assessment Guidance for Superfund used by EPA.

a. Soil: The OU1 remedy removed hot-spot contaminated soils and the OU2 remedy will address remaining soil. Exposure scenarios discussed in the OU2 ROD are still valid. In the interim, approximately two feet of gravel currently covers the site and prohibits direct contact with residual soils contamination. In addition, implementation of the OU2 remedy is expected to remove this grossly contaminated soil from the Site.

b. Groundwater: Though not quantified in the OU2 ROD for soils, due to the presence of contaminants in groundwater and the shallow water table, the potential exists for construction/utility workers to be exposed via incidental ingestion and dermal pathways. This remains a valid potential exposed population. Implementation of the OU2 remedy is expected to address groundwater contamination.

c. Surface Water: The OU1 remedy evaluated the incidental ingestion of and direct contact with contaminated river and on-site lagoon water as potential exposure pathways. Very conservative exposure assumptions resulted in no expected unacceptable cancer risks or noncancer hazards; therefore, it is not expected that an acceptable risk exists currently to these exposed populations.

d. Vapor Intrusion: Soil vapor intrusion (SVI) is evaluated when soils and/or groundwater

are known or suspected to contain VOCs. Because of the presence of VOCs in the groundwater and the shallow water table, vapor intrusion was qualitatively evaluated as a potential exposure route in the OU2 risk assessment.

- Are the cleanup values selected in the ROD still valid?

a. Soil: OU1 cleanup levels might not be valid but OU2 will address remaining contamination.

b. Groundwater: The OU2 ROD selected state and federal MCLs as cleanup goals. While some of these values may have changed since the time of the RODs, they remain valid.

c. Surface Water: State Groundwater Quality Standards were selected as cleanup goals as part of the OU2 remedy. These remedial goals remain valid.

- Are the RAOs used at the time of the remedy still valid?

The specific remedial objectives established as a result of the initial risk assessment performed for the 1986 OU1 ROD included: developing mitigative measures to prevent the exposure of humans to organic and metal contaminants within the unsaturated soil, lagoon sediments, and building dirt/dust through direct contact and ingestion exposure routes and implementing mitigative measures to eliminate the potential hazard to exposed populations caused by the asbestos material covering the on-site tanks and vessels and the chemical materials remaining within them. The RAO from the 1986 OU1 ROD was to control the potential release of contaminants from the Site.

Data from the last FYR reported that potential environmental impacts to biota within the Passaic River were qualitatively and/or, whenever possible, semi-quantitatively assessed, by comparing groundwater concentrations to ambient water quality criteria (AWQC) and by factoring in a river dilution factor for the Passaic River. Although the exposure assumptions and toxicity assessment conducted to support the 1986 ROD may not necessarily reflect the current ecological risk assessment methodology, the remedy has eliminated exposure to ecological receptors in the Passaic River by controlling the source of contamination. Furthermore, when the groundwater treatment system is in operation, treated groundwater meets permit requirements. Currently a flushing system is in place for groundwater treatment and there is no discharge to surface water. Therefore, the groundwater to surface water pathway has been addressed.

<u>Question C</u>: Has any other information come to light that could call into question the protectiveness of the remedy?

Based on the evaluation of the potential human exposures at the Site there is no new information that could call into question the protectiveness of this remedy once it is fully implemented. There have been no physical changes to the Site that would adversely affect the protectiveness of the remedy and none are anticipated in the next five years.

V. Issues, Recommendations and Follow-up Actions

OU(s): OU1	Issue Category: Remedy Performance			
	Issue: Data has not been collected since 2012 to support that hydraulic control is occurring.			
	Recommendation: Need to record water level measurements and other data to support that hydraulic control is occurring and that the remedy is operating as intended.			
Affect Current Protectiveness	**Affect Future Protectiveness**	**Implementing Party**	**Oversight Party**	**Milestone Date**
No	Yes	State	EPA	September 2018

VI. Protectiveness Statement

Protectiveness Statement		
Operable Unit: OU1	Protectiveness Determination: Protectiveness Deferred	Due Date: September 2018
Protectiveness Statement: The FYR concluded that a protectiveness determination for the OU1 remedy cannot be made at this time until there is sufficient data to support that hydraulic control is occurring. It is expected that this action will take approximately 24 months, at which time a protectiveness determination will be made.		

VII. Next Review

The next five-year review for the Syncon Resins Superfund Site is required five years from the completion date of this review. However, a protectiveness determination will be made approximately 24 months from now.

Document Review

The documents, data, and information which were reviewed in completing this fourth five-year review are: discharge monitoring reports, biomonitoring data, and previously conducted five-year review reports. In addition, the following reports were used:

Specifications, 100% Remedial Design (OU-2), Revision 1, USACE- CDM Smith, November 19, 2015

Discharge Monitoring Reports for January through June 2011, Syncon Resins Superfund Site, Kearny, NJ, NJDEP August 5, 2011

Discharge Monitoring Reports (selected months) January through December 2012, Syncon Resins Superfund Site, NJ, NJDEP

Discharge Monitoring Reports, January through December 2013, Syncon Resins Superfund Site, NJ, NJDEP

Chronology of Site Events

Event	Date(s)
Earliest evidence documenting existence of the Site.	1951
The owners of the Syncon Resins facility filed bankruptcy under Chapter 11 under the Bankruptcy Act.	May 1977
NJDEP investigated the Site and ordered its owners to control and contain the hazards at the Site.	November 1981
The company ceased all operations.	1982
A limited Site investigation showed widespread contamination.	1982
The Site was added to the National Priorities List.	December 1982
Under a cooperative agreement between EPA and NJDEP, a total of 12,824 55-gallon drums of off-specification resins, raw materials, wastes and solvents were removed at a cost of about $2.4 million.	1984
NJDEP's contractor conducted a remedial investigation at the Syncon Resins Site.	May 1985 – April 1986
The United States filed a cost recovery action against Mr. Benjamin Farber.	1986
The Feasibility Study was completed.	August 1986
EPA issued the interim OU-1 ROD.	September 29, 1986
The selected OU-1 ROD remedy was completed by NJDEP.	October 1993
The Bankruptcy Court granted the trustee's motion to abandon the property and dismiss the bankruptcy case.	July 25, 1996
L.R. Kimball and Associates was contracted by NJDEP to perform a Focused Feasibility Study of the Site using the data collected during the investigations.	January 1998
Focused Feasibility Study Report for the Site was completed.	July 1998
The final remedy was selected in the OU-2 ROD.	September 27, 2000
The first Five-Year Review was completed.	July 10, 2001
EPA provided funding to NDJEP to commence RD-OU-2 activities.	September 2002
NJDEP and EPA held a meeting with the RD contractor, Louis Berger.	October 7, 2003
EPA attended NJDEP's kickoff meeting with the design contractor.	February 4, 2004
EPA received the draft Conceptual Approach for Pre-Design Investigation Report for review.	August 23, 2004
EPA reviewed the Conceptual Approach for Pre-Design Investigation Report and provided comments.	September 7, 2004
EPA submitted comments to NJDEP to the draft Pre-Design Investigation Workplan.	March 10, 2005
NJDEP submitted a draft Pre-Investigation Workplan for EPA's review.	August 9, 2005
EPA and NJDEP conducted a Site visit for the Five–Year Review.	March 7, 2006
An on-site building assessment was conducted.	May 2006
A Pre-Design Investigation was conducted by NJDEP.	July to October 2006
The second Five-Year Review was completed.	September 7, 2006
A Draft Pre-Design Report was completed	February 14, 2007
EPA assumed the lead responsibility for Site activities for OU2	September 18, 2007
A field investigation was conducted which consisted of collecting soil borings	July 14, 2008

Chronology of Site Events	
Event	**Date(s)**
and conducting sampling activities	
A technical memorandum was prepared to assess regional groundwater flow and water quality in unconsolidated deposits in the vicinity of the Site	2009
Human Health Risk Assessment report was completed	August 9, 2009
Public Comment Period commenced	August 9, 2010
Public Meeting was held	August 19, 2010
FFS activities began and a Final FFS report was completed	August 10, 2010
Public Comment Period ended	September 8, 2010
The final remedy was selected in the Amended OU-2 ROD	September 30, 2010
Five-year review Site visit	November 3, 2010
Five-year review second Site visit	November 17, 2010
The Third Five-review was completed	August 23, 2011
Approval of Final Remedial Design Report	October 2, 2012
Superstorm Sandy	October 22 – November 2, 2012
Senators Booker and Menendez conducted a site tour/press event	June 9, 2014
EPA and NJDEP conducted a Site visit for the Five–Year Review	August 19, 2015
Received Partial Funding for OU2 RA	August 24, 2015
Final Revised Remedial Design Report – OU2	January 15, 2016
Pre-bid Meeting – OU2	February 11, 2016
Award of RA contractor	June 23, 2016
Planned RA On-Site Mobilization – OU2	October 3, 2016

TABLE 1

SYNCON RESINS DISCHARGE MONITORING REPORTS FROM NJDEP				
OUTFALL No. 1 Passaic River, SW3				
MONTH	**Average Discharge (MGD)**	**Max Discharge (MGD)**	**Total to Surface Water (G)**	**Total to Ground-water (G)**
Jan-11	0.001997	0.0154	59900	202412
Feb-11	0.0016	0.0258	44687	187454
Mar-11	0.0121	0.0273	374639	117207
Apr-11	0.0037	0.0233	110254	131841
May-11	0.0048	0.0244	148155	57154
Jun-11	0.0007	0.0096	19901	30015
Jul-11	N/A	N/A	N/A	N/A
Aug-11	N/A	N/A	N/A	N/A
Sep-11	N/A	N/A	N/A	N/A
Oct-11	0.0071	0.0269	N/A	N/A
Nov-11	0.0068	0.0238	N/A	N/A
Dec-11	0.0048	0.0248	N/A	N/A
Jan-12	0.006	0.0268	184916	86046
Feb-12	0.045	0.0216	130507	144673
Mar-12	0.0042	0.0215	131304	131448
Apr-12	0.0025	0.0191	74422	107830
May-12	N/A	N/A	0	107314
Jun-12	0.0041	0.0215	121585	237162
Jul-12	0.0024	0.0211	74927	40408
Aug-12	0.0022	0.019	68289	151785
Sep-12	N/A	N/A	0	75643
Oct-12	N/A	N/A	0	122482
Nov-12	0	0	0	0
Dec-12	0	0	0	0
Jan-13	0	0	0	0
Feb-13	0	0	0	0
Mar-13	0	0	0	0
Apr-13	0	0	0	0
May-13	0	0	0	0
Jun-13	0	0	0	0
Jul-13	0	0	0	0
Aug-13	0	0	0	0

Sep-13	0	0	0	0
Oct-13	0	0	0	0
Nov-13	0	0	0	0
Dec-13	0	0	0	0
NOTES				
Data provided by NJDEP				
N/A Not Available				
"0" indicates no discharge conducted				
Repairs to plant were reported complete by 2014				
MGD = Millions of gallons per day				
G = Gallons				

SYNCON RESINS - CWTS

DISCHARGE REPORT - July - 2012

DATE	TOTALIZER READINGS BEGINNING	ENDING	GPM	DISCHARGE WATER SURFACE	GROUND
1	43,928,889	43,928,889	0.0		0
2	43,928,889	43,928,889	0.0		0
3	43,928,889	43,928,889	0.0		0
4	43,928,889	43,928,889	0.0		0
5	43,928,889	43,928,889	0.0		0
6	43,928,889	43,928,889	0.0		0
7	43,928,889	43,928,889	0.0		0
8	43,928,889	43,928,889	0.0		0
9	43,928,889	43,928,889	0.0		0
10	43,928,889	43,949,438	14.3		20,549
11	43,949,438	43,963,476	9.7	14,038	0
12	43,963,476	43,984,598	14.7	21,122	0
13	43,984,598	43,985,315	0.5	717	0
14	43,985,315	43,985,315	0.0		0
15	43,985,315	43,985,315	0.0		0
16	43,985,315	43,985,315	0.0		0
17	43,985,315	44,005,174	13.8		19,859
18	44,005,174	44,022,981	12.4	17,807	0
19	44,022,981	44,038,745	10.9	15,764	0
20	44,038,745	44,044,224	3.8	5,479	0
21	44,044,224	44,044,224	0.0		0
22	44,044,224	44,044,224	0.0		0
23	44,044,224	44,044,224	0.0		0
24	44,044,224	44,044,224	0.0		0
25	44,044,224	44,044,224	0.0		0
26	44,044,224	44,044,224	0.0		0
27	44,044,224	44,044,224	0.0		0
28	44,044,224	44,044,224	0.0		0
29	44,044,224	44,044,224	0.0		0
30	44,044,224	44,044,224	0.0		0
31	44,044,224	44,044,224	0.0		0
		Total	80.1	Total 74,927	
		MIN.	0.0	0	
		AVG.	2.6	2,417.0	
		MAX.	14.7	21,122	

DISCHARGE

SURFACE WATER	74,927	GALLONS	65%	TO SURFACE WATER
GROUND WATER	40,408	GALLONS	35%	TO GROUND WATER
TOTAL	115,335	GALLONS		

SYNCON RESINS - CWTS

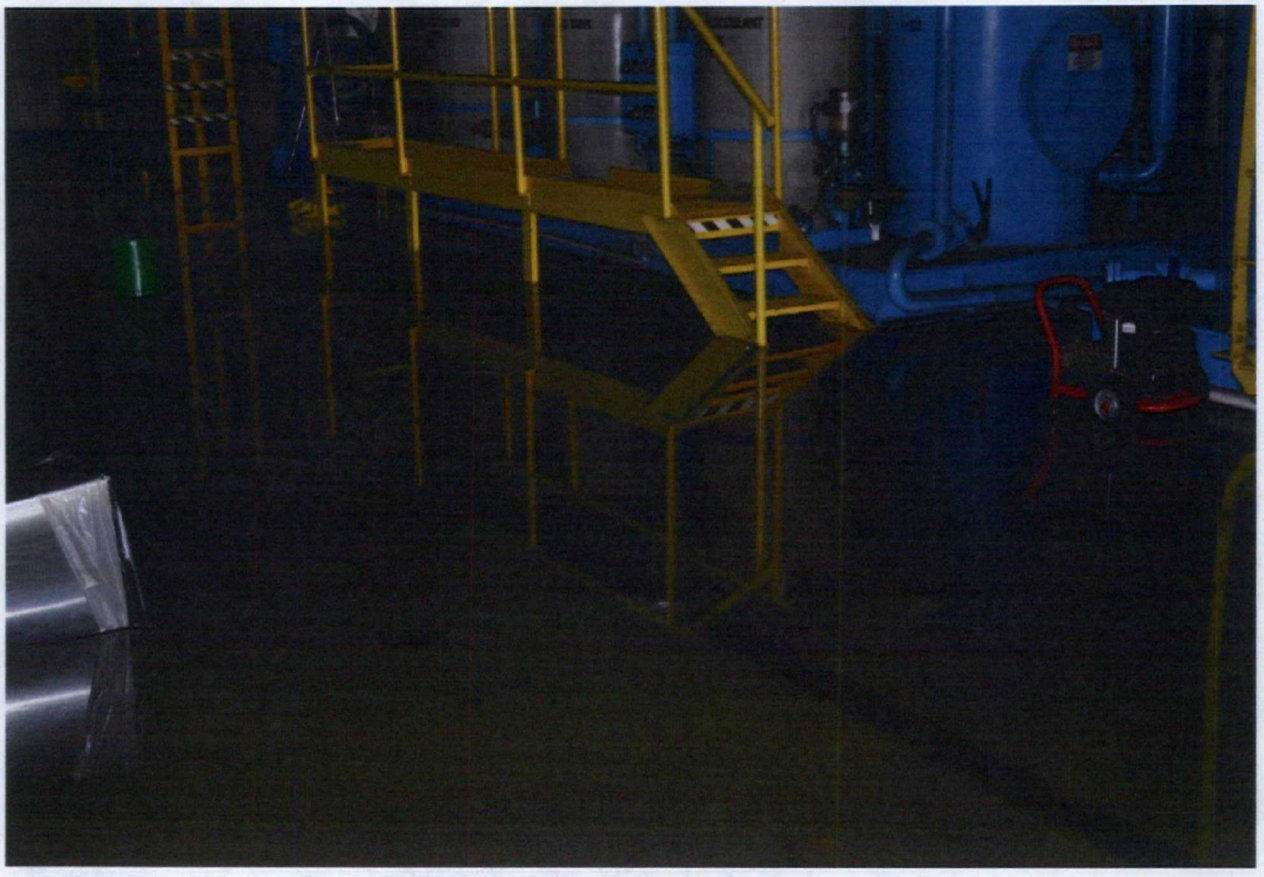
DISCHARGE REPORT - October - 2012

DATE	TOTALIZER READINGS BEGINNING	ENDING	GPM	DISCHARGE WATER SURFACE	GROUND
1	44,339,941	44,339,941	0.0		0
2	44,339,941	44,339,941	0.0		0
3	44,339,941	44,339,941	0.0		0
4	44,339,941	44,339,941	0.0		0
5	44,339,941	44,339,941	0.0		0
6	44,339,941	44,339,941	0.0		0
7	44,339,941	44,339,941	0.0		0
8	44,339,941	44,339,941	0.0		0
9	44,339,941	44,339,941	0.0		0
10	44,339,941	44,360,858	14.5		20,917
11	44,360,858	44,379,959	13.3		19,101
12	44,379,959	44,384,780	3.3		4,821
13	44,384,780	44,384,780	0.0		0
14	44,384,780	44,384,780	0.0		0
15	44,384,780	44,401,380	11.5		16,600
16	44,401,380	44,419,210	12.4		17,830
17	44,419,210	44,425,474	4.4		6,264
18	44,425,474	44,425,474	0.0		0
19	44,425,474	44,425,474	0.0		0
20	44,425,474	44,425,474	0.0		0
21	44,425,474	44,425,474	0.0		0
22	44,425,474	44,425,474	0.0		0
23	44,425,474	44,425,474	0.0		0
24	44,458,803	44,475,674	11.7		16,871
25	44,475,674	44,492,203	11.5		16,529
26	44,492,203	44,495,752	2.5		3,549
27	44,495,752	44,495,752	0.0		0
28	44,495,752	44,495,752	0.0		0
29	44,495,752	44,495,752	0.0		0
30	44,495,752	44,495,752	0.0		0
31	44,495,752	44,495,752	0.0		0
		Total	86.0	Total	0

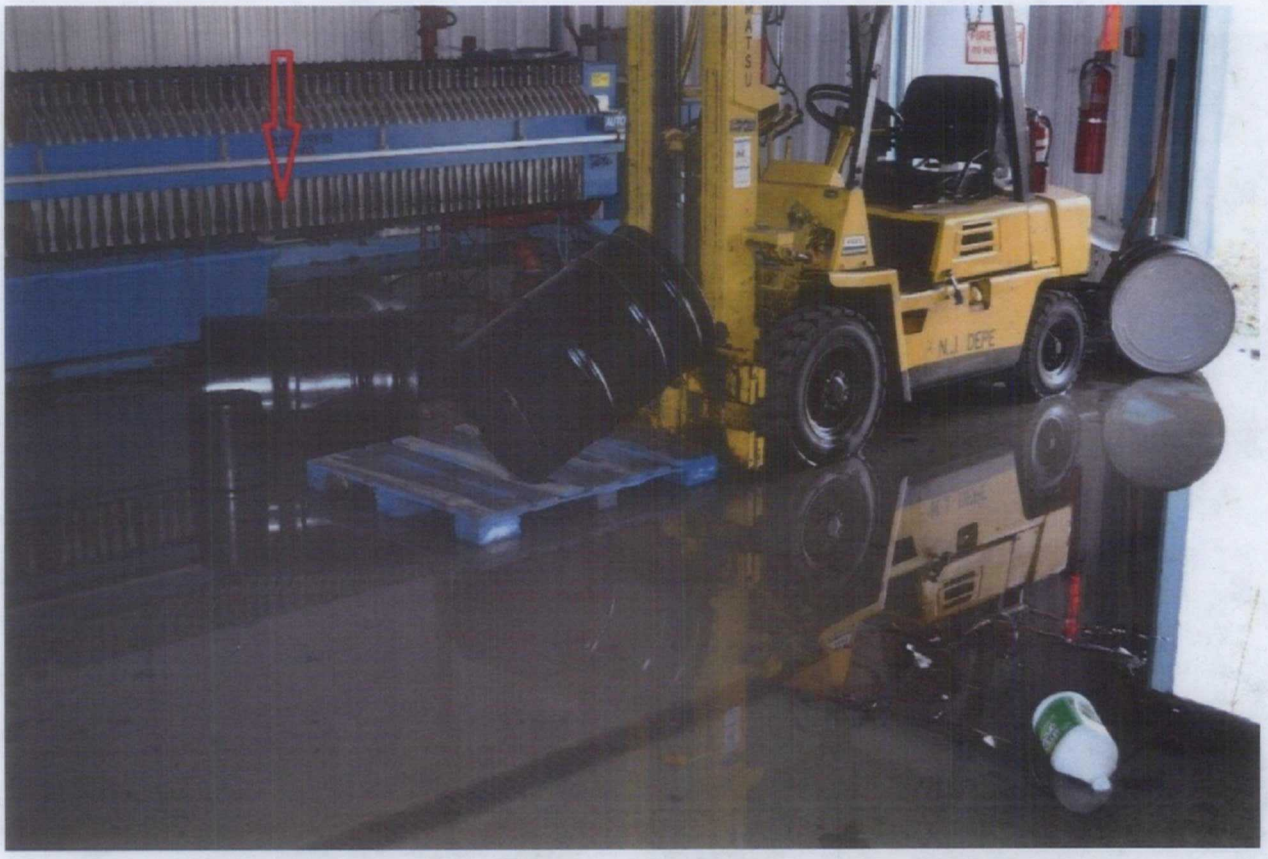
MIN.	0.0	
AVG.	0.0	0.0
MAX	0.0	0

DISCHARGE

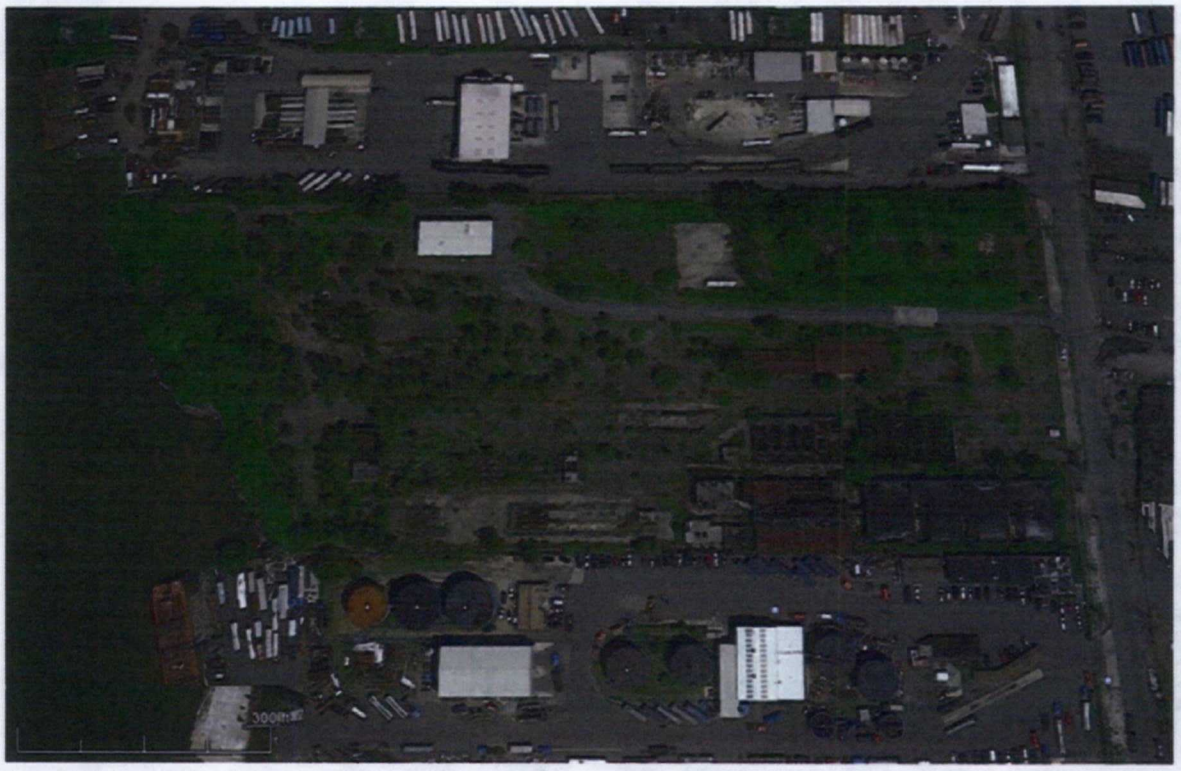
SURFACE WATER	0	GALLONS	NODI	TO SURFACE WATER
GROUND WATER	122,482	GALLONS	100%	TO GROUND WATER
TOTAL	122,482	GALLONS		



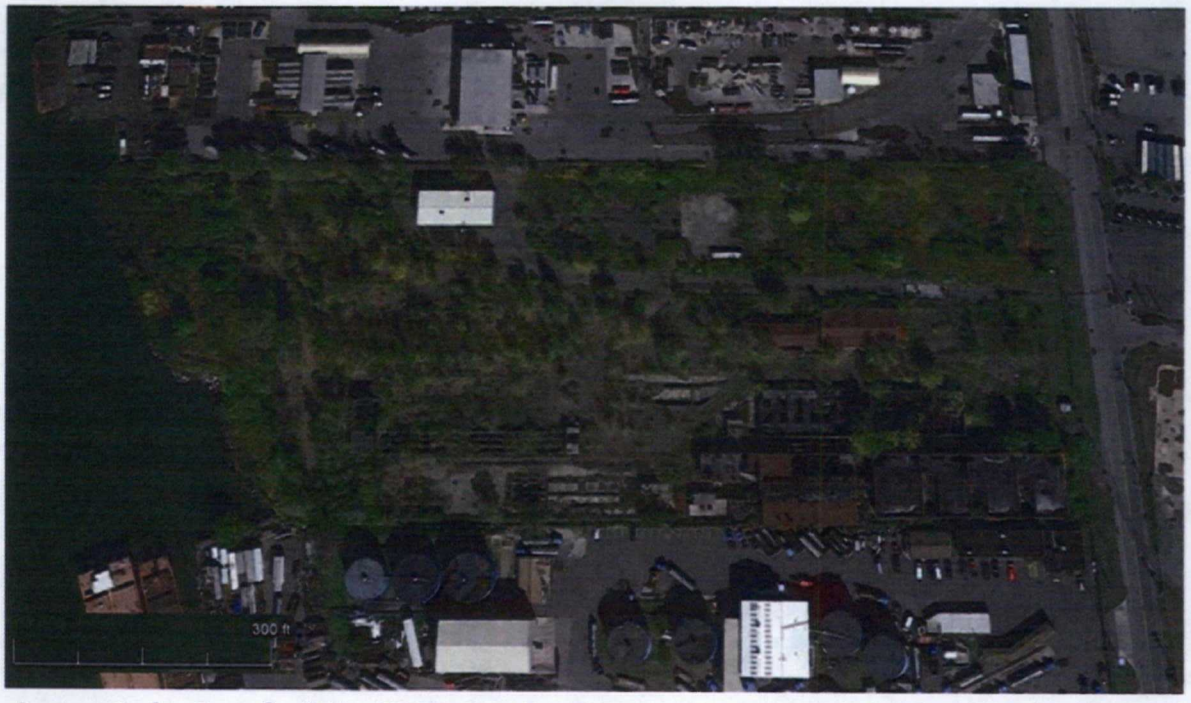
Superstorm Sandy 2012 - Treatment Plant damage


N.J. DEPT


DO NOT BLOCK



Syncon Resins Superfund Site, 77 Jacobus Avenue, Kearney, NJ. Imagery date 6/17/2010 (Google Earth)



Syncon Resins Superfund Site, 77 Jacobus Ave, Kearney, NJ Image date 10/11/2014 (Google Earth)

Photograph 1 Groundwater Treatment System Components After Repairs 2014